

- Fig. 6. *Cythere (Bairdia) inflata* (Norman) : valvula sinistra.  
 Fig. 7. Eadem, desuper spectata.  
 Fig. 8. Eadem, ab imo spectata.  
 Fig. 9. *Cythereis fimbriata* (Rømer) : valvula sinistra.  
 Fig. 10. *Cythere marginata* (Norman) : valvula sinistra.  
 Fig. 11. Eadem, desuper spectata.  
 Fig. 12. Eadem, ab imo spectata.  
 Fig. 13. *Cythere badia* (Norman) : valvula sinistra.  
 Fig. 14. Eadem, desuper spectata.  
 Fig. 15. Eadem, ab imo spectata.

Sedgefield, county Durham,  
 December 6, 1861.

XI.—On new Species of Snakes in the Collection of the British Museum. By DR. ALBERT GÜNTHER.

[Plates IX. & X.]

AFTER the arrangement of the Collection of Ophidians in the British Museum had been completed (in 1858), it became possible to devote particular attention to the acquisition of such species as were *desiderata* in that Collection. This object has met with great success, not only from the increased number of collections offered for sale, but also from the kind assistance of the keepers of several public collections, who gave up such specimens as were duplicates, and of private gentlemen who had become interested in the subject. Among the former we must mention Th. J. Moore, Esq., of the Liverpool Museum; Prof. Aitken, Curator of the Museum of the medical officers at Fort Pitt; Prof. Peters of Berlin; and finally, the officers of the Smithsonian Institution: of the latter, G. Krefft, Esq. (Sidney); O. Salvin, Esq.; Dr. O. Wucherer; Capt. R. H. Beddome; Ch. N. Buller, Esq.; J. H. Gurney, Esq.; O. Russell, Esq.; Consul Swinhoe, &c.

It would require the space of a supplementary catalogue to enumerate all the new accessions to the Collection in the course of the last three years; it must suffice here to give only a list of those species which had been *desiderata*, and of those which were new to science and have been described from Museum specimens. It will be seen, from the lists appended, that 100 *species* have been added to the Collection.

The Collection of Snakes in the British Museum contains now 611 species, and the typical specimens of 184 of them.

I. List of Species which were formerly *desiderata*.

- \**Loxocemus bicolor*, Cope. G. Lenox Conyngham, Esq.  
*Wenona plumbea*, B. & G. California. Smiths. Instit.  
*Rhinophis oxyrhynchus*, Schn. Ceylon. Purchased.

- Rhinophis homolepis, *Hempr.* Ceylon. Purchased.  
 — Blythii, *Kelaart.* Ceylon. Ch. R. Buller, Esq.  
 Plectrurus Perrotetii, *D. & B.* Anamallay Hills. Capt. R. H. Beddome.  
 Catostoma chalybæum, *Wagl.* Mexico. Purchased.  
 Colobognathus Hoffmanni, *Pet.* Costa Rica. Prof. Peters.  
 Geophidium dubium, *Pet.* Mexico. Purchased.  
 Stenorhina Degenhardtii, *Berth.* Mexico. Purchased.  
 Homalocranium atrocinctum, *D. & B.* Guatemala. O. Salvin, Esq.  
 — gracile, *Hallow.* Texas. Smiths. Inst.  
 Simotes trinotatus, *D. & B.* Siam. Purchased.  
 Tomodon lateralis, *D. & B.* Mexico. Purchased.  
 Coronella Boylii, *B. & G.* California. Smiths. Inst.  
 Pliocercus Deppei, *Pet.* Mexico. Purchased.  
 Tropidonotus platyceps, *Blyth.* Himalaya. E. I. Museum.  
 — monticola, *Jerd.* Anamallay Hills. Capt. R. H. Beddome.  
 Heterodon semicinctus, *D. & B.* Fort Pitt Museum.  
 Herpeton tentaculatum, *Lacép.* Siam. Purchased.  
 Hydrodipsas elapiformis, *Pet.* Purchased.  
 Pituophis Sayi, *Schleg.* N. America. Purchased.  
 Coluber Evansii, *Kennic.* Missouri. Smiths. Inst.  
 Cynophis malabaricus, *Jerd.* Anamallay Hills. Capt. R. H. Beddome.  
 Spilotes alleghaniensis, *Holbr.* Illinois. O. Russell, Esq.  
 — samarensis, *Pet.* Philippines. Purchased.  
 Zamenis mexicanus, *D. & B.* Mexico. Purchased.  
 Basanion vetustus, *B. & G.* Oregon. Smiths. Inst.  
 Herpetodryas quadrilineatus, *D. & B.* Madagascar. Purchased.  
 Philodryas serra, *Schleg.* South America. Liverpool Museum.  
 Dromicus leucomelas, *D. & B.\** S. Domingo. Purchased.  
 (Tropidonotus?) seychellensis, *Schleg.* Seychelles. Purchased.  
 Langaha crista-galli, *D. & B.* Madagascar. Purchased.  
 Dipsas Drapiezii †, *Boie.* Java. E. I. Museum.  
 Dipsas (Vipera) bubalina, *Klein.* East Indics. A. Günther.  
 Hormonotus modestus, *Schleg.* (= *H. audax*, *Hallow.*). West Africa. Purchased.  
 Oxyrhopus scolopax, *Klein* (= *O. doliatus*, *Gthr.*, not *D. B.*). South America. Purchased.  
 Tetragonosoma effrene, *Cant.* Pinang. E. I. Museum.  
 Diemansia Kubingii ‡, *Jan.* Sidney. G. Krefft, Esq.  
 Pseudonaja textilis, *D. & B.* Australia. Purchased.  
 Callophis trimaculata, *Daud.* Tenasserim. Dr. Russell.  
 Elaps semipartitus, *D. & B.* South America. Purchased.  
 — decoratus, *Jan.* Brazil. Purchased.

\* My supposition that this snake is identical with *D. ater* has proved to be quite incorrect. (Col. Snak. p. 127.)

† The specimen formerly referred to this species is different, but in so bad a condition that its determination is almost impossible. The diagnosis of the species (Col. Snak. p. 171) is partly incorrect, there being a series of white spots along each side of the belly, and not of black ones. The lateral edges of the vertical are convergent.

‡ Frontals sometimes united into a single pair.

*Naja nigricollis*, *Reinh.* West Africa. Purchased.  
*Atropus undulatus*, *Jan.* Mexico. Purchased.  
*Crotalophorus tergeminus*, *Say.* Illinois. Smiths. Inst.  
*Crotalus confluentus*, *Say.* Nebraska. Smiths. Inst.  
*Cerastes rhinoceros*, *Schleg.* West Africa. Purchased.

## II. List of the new Species procured from 1858 to 1861.

*Chrysenis Batesii*. Brazil. Purchased.  
*Pelophilus Fordii*. West Africa. Purchased.  
*Rhinophis planiceps*, *Pet.* Ceylon. Ch. R. Buller, Esq.  
 — *melanogaster*. Ceylon. Purchased.  
*Silybura macrolepis*, *Pet.* Ceylon. Purchased.  
 \* — *brevis*. Anamallay Hills. Capt. R. H. Beddome.  
 \* — *Beddomii*. Anamallay Hills. Capt. R. H. Beddome.  
*Geophis Güntheri*, *Wuch.* Bahia. Dr. O. Wucherer.  
 \* *Elapomorphus mexicanus*. Mexico. Purchased.  
 — *scalaris*. Bahia. Dr. O. Wucherer.  
 — *Wuchereri*. Bahia. Dr. O. Wucherer.  
*Elapops modestus*. West Africa. Purchased.  
*Uriechis microlepidotus*. East Africa. J. H. Gurney, Esq.  
*Homalocranium laticeps*. Carthagera. Capt. Garth.  
 \* *Oligodon Templetonii*. Ceylon. R. Templeton, Esq.  
 \* — *affinis*. Anamallay Hills. Capt. R. H. Beddome.  
 \* — *brevicauda*. Anamallay Hills. Capt. R. H. Beddome.  
*Simotes tæniatus*. Siam. Purchased.  
*Ablabes Rappii*. Himalayas. E. I. Museum.  
 — *Owenii*. Himalayas. E. I. Museum.  
*Coronella brevis*. Island off Mogador. Rev. R. T. Lowe.  
*Pliocercus æqualis*, *Salv.* Guatemala. O. Salvin, Esq.  
 \* *Liophis viridis*. Pernambuco. Purchased.  
*Mizodon bitorquatus*. West Africa. Purchased.  
 — *Dumerillii*. West Africa. Purchased.  
 \* *Tropidonotus orientalis*. China. Consul Swinhoe.  
 \* *Natrix lævissima*. Fort Pitt Museum.  
*Helicops modestus*. South America. Purchased.  
 — *polylepis*. Upper Amazon. Purchased.  
*Spilotes Hodgsonii*. Himalayas. E. I. Museum.  
 \* — *Salvini*. Guatemala. O. Salvin, Esq.  
 \* *Zamenis gracilis*. Kurrachee. Fort Pitt Museum.  
*Coryphodon rhombifer*. Esmeraldas. Purchased.  
 \* *Psammophis tæniata*. East Indies. Old Collection.  
 \* *Hydrophobus semifasciatus*. T. C. Eyton, Esq.  
*Herpetoreas Sieboldii*. Himalayas. E. I. Museum.  
*Herpetodryas biserialis*. Galapagos Islands. Old Collection.  
 \* *Philodryas Reinhardtii*. Bahia. Dr. O. Wucherer.  
 \* *Dromicus mentalis*. West Indies. Purchased.  
 \* *Rhamnophis æthiopiassa*. West Africa. Purchased.  
*Ahætulla occidentalis*. Ecuador. Purchased.  
*Leptodira torquata*. Nicaragua. Liverpool Museum.

*Leptodira disecolor*. Mexico. Purchased.

\**Diemansia cucullata*. Sidney. G. Krefft, Esq.

\*—— *torquata*. Norfolk Island. Purchased.

\**Hoplocephalus temporalis*. South Australia. Purchased.

\*—— *nigrescens*. Sidney. G. Krefft, Esq.

\**Callophis nigrescens*. East Indies. Fort Pitt Museum.

*Elaps filiformis*. Para. Purchased.

*Trimesurus macrolepis*, *Bedd.* Anamallay Hills. Capt. R. H. Beddome.

*Thamnocenchris aurifer*, *Salv.* Guatemala. O. Salvin, Esq.

*Lachesis nitidus*. Ecuador. Purchased.

Nearly all the species named have been described in the 'Proceedings of the Zoological Society' or in this Journal; and I subjoin here the descriptions of, or remarks on, those marked with an asterisk (\*).

*Loxocemus bicolor*, Cope, Proc. Acad. Nat. Sc. Philad. 1861,  
p. 76\*.

The discovery of this snake is one of the most important additions to herpetology made in the course of the last few years. I had been in doubt for some time as regards the position which this highly interesting form should take in the system, when I received Mr. Cope's excellent description of it. The specimen in the British Museum is in very good condition, 18 inches long (we are not acquainted with the size of the specimen in the Smithsonian Museum), and agrees with Mr. Cope's description so well that we cannot doubt the specific identity of the two specimens. Only two points deserve some remarks. First, the intermaxillary teeth are present; there are two, smaller than the

\* In the same part of the Journal quoted (p. 74) Mr. Cope has pointed out the identity of *Ablabes purpureocauda*, Gthr., with *Contia mitis*, Baird & Gir., and of *Tropidonotus medusa*, Gthr., with *Regina Clarkii*, Baird & Gir. I have no doubt that this observation is fully correct; but I feel rather surprised that the identity of those species should have been "suggested" by one of the authors of the 'Catalogue of North American Reptiles.' Those authors have considered the number of scales (21, 19, 17) as a character of sufficient importance, not only for distinguishing the species, but also for dividing them into separate groups (see *Eutainia*); they have founded a new genus (*Contia*) on the presence of a *single post-orbital*, and distinguished it by that character from *Chlorosoma* (Baird & Gir. Cat. pp. x. 110). Now, when Prof. Baird suggests that a snake with 21 series of scales, and with quite a peculiar coloration of the belly (*T. medusa*), is identical with another with 19 series, and with a different coloration (*T. Clarkii*), and that specimens with two post-orbitals (*A. purpureocauda*) ought to be referred to a genus expressly distinguished from a second genus by the character of one post-orbital (*Contia*), he confesses that his views about specific and generic characters in Ophidians have undergone a considerable change since the publication of his Catalogue, or he must admit that it is impossible to determine from the accounts of the said Catalogue those species which he so readily recognized in my descriptions.

front teeth of the maxillary, on the left side of the intermaxillary, whence I have removed the soft parts. Secondly, our specimen does not show any trace of the external anal spur, or of the internal rudiments of a posterior extremity. I am not inclined to put any value on the presence or absence of those rudimentary limbs; and, considering how closely the British Museum specimen agrees with Mr. Cope's description, I do not believe that it can belong to a distinct species. The presence of intermaxillary teeth, and the occurrence of rudimentary limbs in certain individuals, leave no doubt that this genus is to be placed near or with the Pythonidæ, as has been indicated by Mr. Cope. It differs from all the genera of this family by the shields of the head, and approaches several genera of Homalopsidæ with regard to its physiognomy.

The locality where our specimen was procured is not known: it was presented together with two specimens of *Geophis maculata*.

*Silybura brevis.*

Scales in 17 rows, on the neck in 19; ventral shields 122, anal bifid, subcaudals 9. Snout obtuse; rostral shield rounded; caudal disk well defined, nearly as long as the tail, each scale with two strong keels; the disk terminates in two horny horizontal points. Body short, the circumference of the anterior third of the trunk being contained six times and a half in the total length. Upper parts brown; the lower part of the sides and the belly yellowish, densely marbled with brown; sides of the throat yellowish, immaculate; the lower part of the tail black, with a broad white band on each side. Total length 66 lines; length of the head 3 lines, of the tail  $3\frac{1}{2}$  lines; circumference of the anterior part of the trunk 10 lines.

One specimen from the collection of Capt. R. H. Beddome, made in the Anamallay Hills.

This species differs from *S. ceylonica* by its very short body and much more obtuse snout.

*Silybura Beddomii.*

Scales in 17 rows, on the neck in 19; ventral shields 178, anal bifid, subcaudals 5 to 6. Snout pointed; rostral shield conically protruding, its posterior portion compressed into a slight ridge, far produced backwards, but separated from the frontal shields by the nasals. Caudal disk slightly convex, not well defined, nearly as long as the tail, with two or three strong keels on each scale; the disk terminates in a broad, horny, bicuspid, horizontal scale. Body elongate, the circumference of the thickest part of the anterior third of the trunk being one-eleventh of the total length. Brown; each ventral shield and each scale

on the sides with a white dot; a yellowish line on each side of the neck, commencing from the last upper labial; vent and tip of the tail yellow. Total length 132 lines, head 3 lines, tail 4 lines; circumference  $11\frac{1}{2}$  lines.

Three specimens of equal size were found by Capt. R. H. Beddome in the Anamallay Hills.

*Elapomorphus mexicanus*. Pl. IX. fig. 1.

Allied to *E. Blumii*, Wieg. (= *Elapocephalus taniatus*, Gthr.). Scales in 15 rows; a pair of anterior and posterior frontals; 7 upper labials. Brownish olive, with three blackish longitudinal bands: viz. one, almost linear, along the vertebral series of scales; the two others along the sides, each composed of two blackish lines, one line running along the middle of the second outer series, the other along that of the third. A pair of small yellowish spots on the neck; a yellowish band across the front part of the snout; lips with a black spot below the eye; lower parts uniform yellowish.

Habit moderately slender. Anterior frontals broad, but very short, their longitudinal diameter being only one-fourth of that of the posterior; vertical six-sided, of moderate length; occipitals not much longer than vertical. Posterior frontal in contact with the second labial; one anterior ocular, not reaching to the upper surface of the head; two post-oculars. Seven upper labials, the third and fourth of which enter the orbit, the seventh being the largest. A rather large temporal shield in contact with the post-oculars; a small one behind, between the eleventh labial and the occipital. The median lower labial is exceedingly small; the first pair of lower labials are narrow, transverse, and form a suture together; two pairs of chin-shields of nearly equal size. Scales without apical groove. Ventral shields 158; anal bifid; subcaudals 52. Length of head 4 lines, of trunk 10 inches, of tail 2 inches 9 lines. Mexico.

*Oligodon Templetonii*.

Habit moderately slender. Scales in 15 rows; loreal distinct. Head uniform above, laterally with the markings usually found in the genus. Body brownish, with a light vertebral band, which becomes more distinct on the tail, and is crossed by oblique, narrow, dark-brown bands. Belly white (in spirits), chequered with black, the black and white being distributed in nearly equal proportions. 135 ventral, 1 bifid anal, 31 subcaudal shields. Ceylon.

This species is allied to *O. subquadratus*; the first specimen of it has been brought home by Dr. R. Templeton.

*Oligodon affinis.*

Habit stout. Scales in 17 rows; loreal none, united with post-frontal. Head with the markings usually found in the genus. Body brownish grey; anterior part of the back with short, narrow, black transverse streaks. Belly white, with black subquadrangular spots, the black and white being divided in nearly equal proportions. 134 ventral, 1 bifid anal, 25 subcaudal shields.

Found by Capt. R. H. Beddome in the Anamallay Hills.

*Oligodon brevicauda.*

Allied to *O. dorsalis*, but with very singular characters. Only one pair of frontals; rostral thick, broad, reaching far backwards. Scales in 15 rows; loreal none. Greyish violet. Head with the markings usual in the genus; a broad blackish collar. A band along the vertebral line, indistinct anteriorly, light greyish on the middle of the body, becoming pure white posteriorly and on the tail; it is bordered anteriorly by a series of pairs of equidistant blackish spots; there are no black spots on the tail interrupting the dorsal band. A blackish longitudinal streak on each side, along the third outer series of scales. Ground-colour of belly the same as of the upper parts, with black quadrangular spots; subcaudals whitish. 172 ventral, 1 bifid anal, 30 subcaudal shields. Anamallay Hills.

*Coronella brevis.*

Closely allied to *C. girundica* and *C. cucullata*. Scales in twenty-three rows; upper labials eight; anal bifid. Brownish olive; on each side of the occiput a dark spot, a dark collar behind; an oblique brownish streak below the eye. Belly uniform white. Body stout and short. *Hinder maxillary tooth grooved.*

Discovered by the Rev. R. T. Lowe on the small Island (without name) off the coast of Mogador.

*Liophis viridis.* Pl. IX. fig. 2.

Habit rather slender. Scales smooth, without groove, in 19 rows. Head rather depressed; shields of head regular and proportionate; vertical with the lateral margins convergent; rostral broader than high; loreal square; one anterior ocular reaching to the upper surface of the head; two posterior oculars; eight upper labials, the fourth and fifth entering the orbit; one elongate anterior temporal, in contact with the two oculars; two small temporals behind; six pairs of the lower labials in contact with the chin-shields; two pairs of chin-shields, the anterior much larger than the posterior. Ventrals 178; anal

bifid; subcaudals 66. Posterior maxillary tooth elongate, separated from the others by an interspace. Upper parts uniform blue (in spirits), probably greenish olive in life; the lower uniform white.

Two specimens have been received,—one from Pernambuco.

This species differs from *Coronella Jageri* by its depressed head, by the form of its vertical shield, and by its isolated posterior maxillary tooth; from *Xenodon typhlus* by a much more slender habit, a specimen of the same length as one of the latter species having only half as large a head. *X. typhlus* has 140–147 ventral shields, and no grooves on the scales.

Length of head  $\frac{1}{2}$  inch, of trunk 18 inches, of tail  $4\frac{1}{2}$  inches; greatest circumference of the trunk 14 lines,—whilst the circumference of the trunk of a *X. typhlus* of the same total length (22 inches) is 23 lines.

*Tropidonotus orientalis*. Pl. IX. fig. 3.

Intermediate between *T. natrix* and *T. hydrus*.

Scales in 19 rows, strongly keeled; upper labials seven, the third and fourth entering the orbit; two anterior and three or four posterior oculars; anterior frontals not pointed, rather obtuse in front. Greenish olive, with three series of black spots anteriorly, becoming very indistinct on the middle of the trunk; a black subrescentic spot on each side of the neck, without yellow; posterior margins of the upper labials and a spot on the temple black. Belly more or less blackish. Three temporal shields, the anterior of which is the largest, in contact with two oculars. Ventral shields 152, anal bifid; subcaudals 64.

Two specimens, an adult and a young one, were sent by Consul Swinhoe from Northern China, together with specimens of *Elaphis dione*.

[To be continued.]

## BIBLIOGRAPHICAL NOTICES.

*General Outline of the Organization of the Animal Kingdom, and Manual of Comparative Anatomy.* By THOMAS RYMER JONES, F.R.S., &c. &c. Third Edition. 8vo. London: Van Voorst, 1861.

It is with great pleasure that we have to announce to our readers the appearance of a third and greatly improved edition of Professor Rymer Jones's 'Animal Kingdom.' The fact that a new edition has been so soon called for, considering the scope and character of the book, is of itself a sufficient evidence of its intrinsic value; and although, in our notice of the second edition, we felt bound to point out what appeared to us certain defects in the work, we were



quite prepared, from its general excellence, to expect for it a widely extended popularity. We are glad to see that in the present edition those errors and omissions of greater or less importance which were indicated in its predecessor have been rectified and supplied, and that the author has likewise cast off certain relics of an antiquated system to which we particularly directed attention.

As Professor Jones's volume professes to be an outline of the "organization" of animals, he might perhaps claim to be to a certain extent exempt from criticism in respect of his system; but inasmuch as it is a Manual of Comparative Anatomy and Physiology, and the anatomical statements are to be regarded as illustrative of groups rather than individual species, the classification adopted by the author becomes a matter of primary importance; and we took occasion to object, in our notice of the second edition, to the retention of certain groups in certain positions, as having a tendency to confuse the notions of students upon points of high interest in zoology.

In the volume before us, however, nearly all this is changed: the Epizoa, instead of occupying their old anomalous position amongst the Radiata, have been transferred to their true place in the class Crustacea, and have been accompanied in their flight by their old neighbours the Rotifera, which, however, still of course retain the rank of a class; the Cirrhopoda, which Professor Rymer Jones persisted in 1855 in regarding as Molluscan, are likewise transferred to the Annulose series, but (we think) erroneously kept distinct from the Crustacea. Lastly, the Bryozoa have also made their way from their former low position, to take the place which is now almost universally assigned to them amongst the Mollusca. Curiously enough, however, our author has hesitated to adopt another change which appears to us equally warranted with those just mentioned, namely, the transfer of the Entozoa, or Helminthozoa as he now calls them (including, moreover, the *Turbellaria*), to the division of Annulose animals; and probably the extreme supporters of the new school of zoology may think that he would have been equally justified in removing the Echinodermata into the same series. We are not, however, prepared to cavil at the omission of this change, as we hold it to be the duty of the author of any student's manual of science not so much to give his own peculiar and perhaps still problematical views upon any given point, as to bring his general treatment of his subject as much as possible into accordance with the most generally received opinions. In this, with the single exception of the omission of the Helminthozoa, Professor Jones appears to us to have admirably succeeded as far as regards the three higher subkingdoms, to which he gives the names of Homogangliata, Heterogangliata, and Vertebrata; but we think it a pity that he has not followed the same course with the lower forms. Feeling, perhaps, a distrust of the results obtained by some of our more advanced zoologists, and desiring, as he himself says, to avoid unnecessary changes in zoological classification, our author, whilst advancing a certain distance on the route traced by Professors Huxley and Leuckart and followed by Professor Greene in his excellent manual of the Cœlenterata, and

accepting the division of the gelatinous Radiata into the two classes of Hydrozoa and Anthozoa, has nevertheless retained the group of Acalephæ in its entirety, as including the *Medusæ* (both naked- and covered-eyed), the *Ctenophora*, and the *Siphonophora*; and, as far as his book is concerned, we find no indication of the arrangement of the animals below the Annulosa into one or more subkingdoms. This we cannot but look upon as a defect; and we also regret to see the term Protozoa applied only to the Sponges and Rhizopoda as distinguished from the Infusoria.

Having thus stated the few objections which we have to make against the new edition of Professor Rymer Jones' work, we may proceed to the more pleasing task of saying a few words in its praise. Besides the important changes in system already adverted to, we may notice the great care and industry displayed by the author in bringing together the more important results of the recent researches of comparative anatomists and physiologists, and the skill with which he has incorporated his new matter with the exceedingly elegant text of the former edition, which is probably familiar to most of our readers. The typographical execution of the work, and the beauty of the woodcuts, the number of which is increased by the addition of several new and important figures, also call for all praise; and it may safely be said that we have no treatise on Comparative Anatomy, in the English language, that can at all compare with it.

*Sketches of the Natural History of Ceylon, with narratives and anecdotes illustrative of the habits and instincts of the Mammalia, Birds, Reptiles, Fishes, Insects, &c., including a Monograph of the Elephant and a description of the modes of capturing and training it.* By Sir J. EMERSON TENNENT, K.C.S., LL.D. Small 8vo. London, 1861. Longmans.

As this work consists chiefly of an enlarged reproduction of the Zoological chapters of Sir James Tennent's general description of Ceylon, which we noticed at some length in this Journal (Annals, December 1859) at the time of its appearance, we need do little more than call our readers' attention to the fact of its publication. The author tells us that in preparing his former work for the press he found it necessary to curtail the zoological chapters somewhat, as they would otherwise "have encroached unduly on the space required for other essential topics." In his 'Natural History of Ceylon' he has restored the suppressed passages, consisting to a great extent of anecdotes illustrating the habits of the animals described, and he has also taken the opportunity of introducing some fresh materials. The volume also contains the Treatise on the Elephant, which formed part of the second volume of the larger work; and into this we notice that the author has introduced several fresh anecdotes and remarks.

Next in importance and interest to the chapters on the Elephant are those on the Reptiles and Fishes of Ceylon, the latter being par-

ticularly interesting from the curious observations recorded on what we may call the terrestrial life of Fishes. The list of Fishes, drawn up principally by Dr. Günther, and the remarks of Professor Huxley and Dr. Gray on the richness of the Fish-fauna of the Ceylonese seas, and its comparison with that of other regions, are also exceedingly valuable and suggestive. With the invertebrate animals Sir James Tennent seems to be less familiar; but even upon these we find many interesting observations, and each chapter is furnished, by way of appendix, with a list of the species of the group treated of, known to inhabit Ceylon. These lists, although confessedly imperfect, will be, even as they stand, of great advantage to the student of zoological geography, whilst to those who may hereafter take up the investigation of the Natural History of Ceylon they will afford a most valuable aid.

*A History of British Sessile-eyed Crustacea.* By C. SPENCE BATE, F.L.S., and J. O. WESTWOOD, M.A., F.L.S. &c. 8vo. London: Van Voorst, 1861. Parts 1-3.

Of two great sections of the class Crustacea the British species have already been admirably elucidated—the Podophthalmous forms by Professor Bell, and the Entomostraca by Dr. Baird. The abnormal forms constituting the group of Cirripeds, which may perhaps with some justice be ranked among the latter, have also received their due share of attention in Mr. Darwin's classical work published by the Ray Society; but there still remains a vast number of species, forming the group Edriophthalma of Latreille, to the arrangement and discrimination of which the British naturalist possesses no other guide than is afforded by Mr. Spence Bate's "Synopsis" published in this Journal (February 1857), and Mr. White's excellent little 'Popular History of British Crustacea.' Under these circumstances we welcome with no common interest the appearance of the work of which the first three parts are now before us, in which Mr. Spence Bate, whose acquaintance with his subject no one can doubt, has called to his aid the artistic talents and great general knowledge of the Articulata possessed by the distinguished Hope Professor at Oxford; and, from the care with which the text of their joint production has evidently been prepared, there now appears every prospect of our soon possessing in a moderate compass a complete description of the British Crustacea. No doubt the numerous species, especially of Entomostraca, which have been discovered in our waters since the publication of the works alluded to at the commencement of this notice, render a revision of them desirable; but in the meanwhile the student of Crustacea will be able to advance far upon his course of investigation with the aids already in his hands.

The classification adopted in the work now under consideration agrees with that given by Mr. Spence Bate in his "Synopsis" of the Amphipoda already referred to; that is to say, he suppresses the order Læmodipoda altogether, and divides the Edriophthalma into the two great orders Amphipoda and Isopoda. The former of these

groups he regards as analogous to the *Macrura*, and the latter to the *Brachyura*, whilst the *Læmodypoda* of Latreille are treated as aberrant Amphipods parallel to the *Squilla* amongst the *Podophthalma*.

In the introductory description of the general characters of Amphipods, our authors give an explanation of the somewhat cumbrous terminology proposed by Mr. Spence Bate for these animals. We cannot but regard it as a drawback upon the efforts of our living zoologists that scarcely one of them produces a work at all monographic in its nature without the introduction of a host of new terms, which, although they may to a certain extent conduce both to accuracy of language and brevity of description, are still so many obstacles to be got over by the student before he can really make use of the aid afforded him. This, however, is but a minor point; and we gladly pass to the consideration of those characteristics of the book which call for unqualified approval. These consist, on the one hand, in the fulness of the synonymy, the clearness with which the characters and descriptions have been drawn up, and the care with which the British localities for each species are brought together; and on the other, in the admirably executed figures with which Professor Westwood has illustrated the species. The latter consist of finished outlines of the animals, accompanied by numerous magnified figures of characteristic details; and although from their nature necessarily inferior in elegance to many of the woodcuts with which we are familiar in Mr. Van Voorst's publications, they will be found of equal or perhaps greater scientific value. The tail-pieces appended to several of the articles fully maintain the reputation acquired by others in Mr. Van Voorst's series: they are chiefly small views of localities interesting to the British zoologist from their being associated with the labours of those whose names, with him, are as household words.

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## PROCEEDINGS OF LEARNED SOCIETIES.

### ZOOLOGICAL SOCIETY.

June 25, 1861.—Dr. J. E. Gray, F.R.S., V.P., in the Chair.

The following extract was read from a letter, dated Sydney, April 19th, addressed by Dr. G. Bennett, F.Z.S., to the Secretary:—

“ You will recollect I mentioned in my ‘Gatherings’ a specimen of the Semipalmated Goose (*Anseranas melanoleuca*). That bird I found on my return to Sydney alive and well; and it has been presented to me by its owner, Mr. Clarke. In the young bird the legs and mandibles were flesh-colour; in the adult they are of a light reddish-orange colour, except the horny tip of the mandibles, which was of a light-blue colour. The black and white plumage—the former colour predominating—imparts to the bird a very handsome appearance as it walks with a stately tread (not with the waddling gait of the goose) about the yard of my house like one of the Waders. I have, however, from ignorance of its natural habits been the pro-

bable cause of the death of this bird, and I send you the following remarks, considering they may be of some service to those desirous of domesticating them. This bird was reared from the egg hatched under a common hen, and has survived nearly four years and a half domesticated in daily amicable intercourse with ducks, geese, and all kinds of poultry, and always appearing playful and happy in their society. But it unfortunately happened that, when sent to me, I was not aware of its aversion to a solitary life. When alone in the yard I noticed that it did not eat. Fearing that it had not its usual food, I made inquiry, but found that it had its accustomed food. Still, however, it moped, and more frequently than usual made its peculiar clanging noise; and although it would walk about the yard, yet it more frequently mounted the high flight of stone steps and squatted upon the lofty wall, remaining there for the most part of the day. Although it did not feed well, yet it would often wash itself in a tub of water placed for its use, and drank a good deal of water. At last it became ragged in plumage, the wings drooped, and it died after having been in my possession only from the 28th of February to the 25th of March. On mentioning the circumstance to a relation of the donor, I was then informed, but too late, that if kept by itself it would droop and refuse food, but when placed among other fowls became lively, playful, and fed well. I fear that many birds and other animals perish in our menageries by inattention to these apparently trivial circumstances, which are, however, most essential to their successful rearing and preservation. I have been informed, by those who have eaten of these birds in the southern parts of Australia, that they are usually thin, and the flesh coarse and not well-flavoured."

NOTES ON THE BROAD-FRONTED WOMBAT OF SOUTH AUSTRALIA  
(*PHASCOLOMYS LATIFRONS*, OWEN). BY GEORGE FRENCH  
ANGAS, CORRESPONDING MEMBER OF THE ZOOLOGICAL  
SOCIETY OF LONDON, ETC.

The existence of a second species of *Phascolomys* on the Australian continent was established some years ago by Professor Owen, from a skull sent to England from South Australia, and named by him *Phascolomys latifrons* (see 'Proceedings of the Zoological Society' for 1845).

Mr. G. R. Waterhouse, in his excellent work on the *Marsupiateda*, says, "Of the Broad-fronted Wombat, all that is known is a skull sent from South Australia to Professor Owen. This skull presents so many marked differences when compared with that of the *Phascolomys Wombat*, that no doubt can be entertained of the existence of two distinct species of Wombats."

I have lately had the opportunity of examining a full-grown male example of the Broad-fronted Wombat, now living in the Botanical Gardens in Adelaide, and of comparing it with two adult specimens (male and female) of the Tasmanian Wombat, which, fortunately enough, were being exhibited at the time in Adelaide. The differ-

ences between the two species were so evident, that I was induced to make a careful drawing of *P. latifrons*, which, together with my observations and measurements of both animals, I have much pleasure in laying before the Society.

When I first saw the Wombat in the Adelaide Gardens I was at once impressed with the idea that it was an animal altogether distinct from that figured by Mr. Gould in his 'Mammals of Australia;' but as I was unable to refer to a copy of that magnificent work in this colony, I hailed with pleasure the arrival of the living Tasmanian Wombats, an inspection of which set aside all my doubts as to the distinctness of the two species.

*Phascolomys latifrons*, Owen. Adult male. Total length 38 inches. Fur fine and silky, rather long, particularly on the hind-quarters; colour light silvery mouse, tinged with buff and purplish brown, browner on the face; the chest is white; the remainder of the under surface is of a reddish mouse-colour; the feet are of the same colour as the body; the claws are smaller than those of *P. Wombat*; the toes are covered with hair to the nails; under lip blackish; there is a light-coloured spot above the eye, and a corresponding one below it, with a dark triangular patch extending underneath the eyes in front towards the nostrils; eyes small, irides dark hazel; eyelids black; nose flesh-coloured; the bristles of the eyebrows are black and rather long, as are also those in the centre of the cheek and round the nostrils; tail naked and very small; the hind quarters present somewhat of that peculiarly flattened or truncated appearance observable in the ordinary Wombat; the ears are well-clothed with hair internally. The following are the dimensions of *P. latifrons*:—

|  | in. | lin. |
|--|-----|------|
| Length from tip of nose to root of tail . . . . .        | 37  | 0    |
| — of tail . . . . .                                      | 1   | 0    |
| — of head . . . . .                                      | 10  | 0    |
| — of ear . . . . .                                       | 3   | 8    |
| Breadth between tips of ears . . . . .                   | 8   | 0    |
| — between root of ears . . . . .                         | 5   | 0    |
| — between eyes . . . . .                                 | 3   | 0    |
| Girth of skull in thickest part . . . . .                | 18  | 0    |
| — of centre of body . . . . .                            | 28  | 4    |
| Length of hind foot, including claws . . . . .           | 4   | 4    |
| — of fore foot . . . . .                                 | 3   | 3    |
| Height at shoulder . . . . .                             | 12  | 0    |
| — at hips . . . . .                                      | 14  | 0    |
| Length of hind claw $\frac{1}{2}$ an inch; fore claw . . | 1   | 0    |

*Phascolomys Wombat*, Péron et Lesueur. Adult male. Total length 33 inches. Fur very rough and coarse, of a dark grizzly-grey; ears quite small, blackish brown outside, whitish internally; nose nearly black, and more pointed than that of *P. latifrons*, giving to the face an expression slightly resembling the "Koala" (*Phascolarctos cinereus*); whereas the *P. latifrons* presents a bold, bull-dog-like aspect from the greater expansion of his face and width of

nostrils ; the tail is naked and rudimentary ; the feet are black, as are the hairs of the fur covering them above ; the claws are black, and are longer and more powerful than those of *P. latifrons*. The general aspect of *P. Wombat* is more bear-like than that of *P. latifrons*. In standing it arches its back considerably, and does not hold its head so erect as the latter animal ; the expression of the eye, too, is decidedly fierce, and lacks the good-natured twinkle of the South Australian species. Next to the form of the skull, one of the most striking specific differences manifests itself in the colour, character, and texture of the fur ; in sleeping it rolls itself almost into a ball, burying its nose between its fore paws. The measurements I made of the adult male of the *P. Wombat* are as follows :—

|  | in. | lin. |
|--|-----|------|
| Extreme length . . . . .               | 33  | 0    |
| Length of head . . . . .               | 9   | 0    |
| Breadth between tips of ears . . . . . | 6   | 9    |
| Breadth between eyes . . . . .         | 3   | 0    |
| Length of ears . . . . .               | 2   | 0    |
| Girth round centre of body . . . . .   | 29  | 6    |
| Height, middle of back . . . . .       | 15  | 0    |

The specimen of *P. latifrons* in the Adelaide Botanical Gardens is the only one I have yet seen. It was caught some twelve months since, near the Gawler River, about thirty miles north of Adelaide. It is kept in an enclosure, where it is secured with a strong chain and collar to prevent its escape by burrowing ; it is perfectly docile, and never attempts to bite like the Common Wombat ; it is fed artificially on bran and weeds, and drinks freely of water. The only sound it emits is a short quick grunt when annoyed ; it sleeps a good deal during the day, and appears impatient of heat and rain, as in its wild state it is entirely a burrowing animal, living in large holes in the limestone districts, and only leaving its habitation towards dusk for the purpose of obtaining food. The specimen in the Gardens is fond of lying on its back like a bear, the feet are thoroughly plantigrade, and on the inner hind toe the claw is quite rudimentary. He will burrow 3 or 4 feet into the soft ground of his enclosure, and scratches alternately with his fore paws. When worried he will turn his hind quarters to the enemy, and, suddenly turning round, make a charge at his legs, evidently for the purpose of throwing him down ; otherwise he is perfectly harmless. He runs fast for a short distance in a sort of gallop, but soon tires, and is easily caught. Although in some parts of the colony, especially on Yorke's Peninsula and about Port Lincoln, the holes of these Wombats are very numerous, yet the animals are but rarely seen. Many of the oldest colonists have informed me that they never saw a Wombat alive. The blacks on the Murray describe two kinds of Wombats ; one (evidently *P. latifrons*) they speak of as "big yellow fellow," the other as being smaller and dark ; they also say that the impressions of their feet in the sand-tracks leading to their burrows bear a striking resemblance to those of the foot-prints of a young child. The flesh

they describe as being like pork, and excellent eating. They are extremely difficult to obtain on account of their great timidity. The usual plan is to make a screen of boughs in the vicinity of their haunts, behind which the natives conceal themselves; and then, if not killed on the spot, they will scramble to their holes, from whence it is utterly impossible to dislodge them.

Collingrove, South Australia,  
April 1861.

LIST OF SPECIES COMPOSING THE FAMILY MEGAPODIIDÆ;  
WITH DESCRIPTIONS OF NEW SPECIES, AND SOME ACCOUNT  
OF THE HABITS OF THE SPECIES. BY GEORGE ROBERT  
GRAY, F.L.S., ETC.

1. TALEGALLUS CUVIERI, Less. Voy. Coq. i. p. 716.

*Talegalla Cuvieri*, Pr. B. Compt. Rend. 1856, t. 38. p. 876.  
New Guinea (Havre Dorey); Aru Islands.

2. TALEGALLUS LATHAMI.

*New Holland Vulture*, Lath. Hist. of B. i. p. 32.

*Alectura* —, Lath. Hist. of B. x. p. 455.

*Alectura Lathamii*, Gray, Zool. Misc. i. p. 3.

*Meleagris Lindsayi*, James, Mem. Wern. Soc. vii. p. 473.

*Catheturus australis*, Swains. Classif. of B. ii. p. 206.

*Catheturus Cuvieri* (Less.), Bl.

*Talegalla Lathamii*, Gould, B. of Austr. v. pl. 77.

*Catheturus Novæ Hollandiæ* (Lath.), Pr. B. Compt. Rend. 1856,  
p. 376.

Brush Turkey.

‘Wee-lah’ of the natives.

Australia.

3. MEGACEPHALON RUBRIPES, G. R. Gray & Mitch. Gen. of B.  
iii. pl. 123 (adult).

*Megacephalon Maleo*, Temm.; Wallace, Ibis, 1860, p. 142.

*Megapodius rubripes*, Quoy & Gaim. Voy. Astrol. t. 25 (young).  
Celebes (Menado).

4. LEIPOA OCELLATA, Gould, Proc. Z. S. 1840, p. 126; B. of  
Austr. v. pl. 78.

‘Marrakko,’ ‘Marra-ko,’ of the natives of S. Australia.

‘Ngow-o,’ ‘Ngow,’ of the natives of W. Australia.

5. MEGAPODIUS FREYCINETI, Quoy & Gaim. Voy. Uranie, t. 32.

Juv. *Alethelia Urvilii*, Less. Voy. Coq. i. p. 703, t. 37; Pr. B.  
Compt. Rend. 1856, p. 876.

Island of Waigiou; Guébé, Boni; Batchian? and Kaisa Islands?

6. MEGAPODIUS QUOYII.

*Megapodius Freycineti*, p., G. R. Gray, Proc. Z. S. 1860, p. 362.

Like the Batchian examples of the former species; but it is of a